CITY UNIVERSITY

Assignment No -01

Department Name: Computer Science & Engineering

Course Code :   CSE-325

Course Name: System Analysis and Design

Task Name: Activity Diagram for Atm

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Date of Submission: 27.06.19

Contents

What is Activity Diagram?

Activity Diagrams describe how activities are coordinated to provide a service. Activity Diagrams consist of activities, states and transitions between activities and states. You can use activity diagram to model the logic of a single use case, or even how to coordinate a collection of use cases for the entire targeted system being developed. For example, to model how the events in a single use case relate to one another - in particular, use cases where activities may overlap and require coordination.
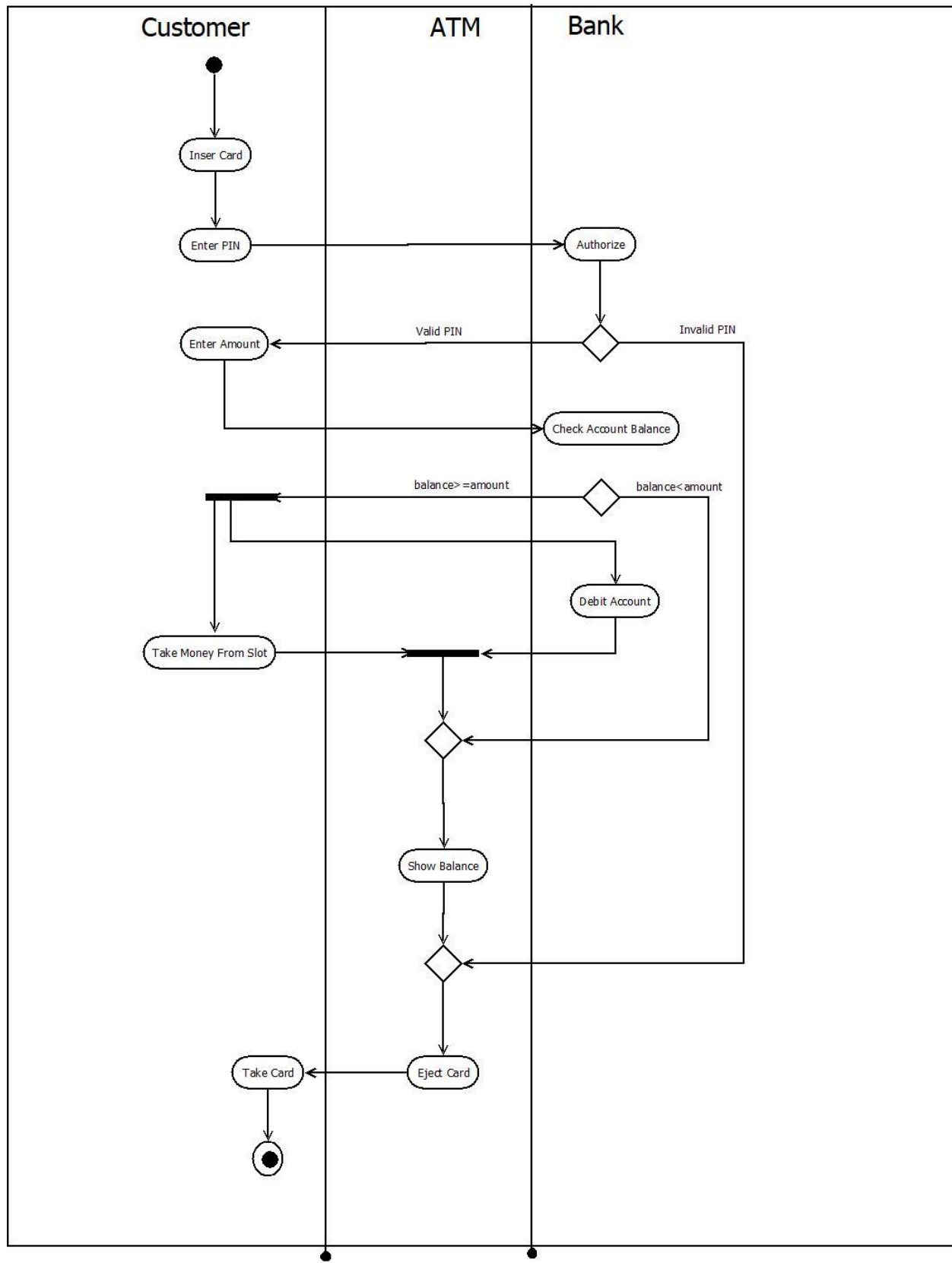
How the work ATM machines

When you need money, you can stop at an ATM, enter a PIN and leave with cash. How do these wonder machines that give you money and the network that approves the transactions work?

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When you insert your card into the card reader, it responds to the prompts on the screen, and within a minute you walk away with your money and a receipt (assuming you have a Bank account and a valid ATM Card).ATM (Automatic Teller Machine) is a banking terminal that accepts deposits and dispenses cash. ATMs are activated by inserting cash (in cases of ATM Depositing) or debit /credit card that contain the user's account number and PIN on a magnetic stripe (for cash withdrawals).In Rwanda, the ATM machines serve just one purpose, to dispense cash to the ATM Card Holders. In reality, the ATM is just an extension of the Bank, it requests the bank's computers to verify the balance and the authenticity (genuineness of the card vis avis the password or PIN entered) dispenses the cash and then transmits a completed transaction notice. The word "machine" in the term "ATM machine" is certainly redundant, but widely used. Come to think of it, the ATM terminal is a sort of remote computer with a Safe Cash box attached to it. This serves as yet another Bank Branch, though some of you think that the ATM is an unattended device, you might be surprised to find that, the other side of the ATM (the hidden inside) has people constantly rendering services to the

clients. Many of them are monitored online to make sure that, the money does not run out, they don't get tampered with, the network is online etc. The ATM is made of the CPU (microprocessor). It is this that carries out the processing roles like authentication, networking, validation of currency notes, etc. This is the principal component. The VDU (visual display unit) comprises of the Screen and the keyboard, this acts as the interface with the client, it is this that gives any feedback that is utilised by the clients. In addition to this, there is a Receipt printer that produces hard copies of all the transactions that have been effected. This helps the users to have proof of their transactions; this is just like the one gets after a banking transaction. In addition, this interface has the Card reader as well as the money dispensing slots. The dispenser is connected to the "currency box" by rubber rollers that move one "bank note" (currency unit) at a time from the currency box (each holds about 2,000 notes) to the dispenser area. A sensor determines if two or more bills are stuck together or if the wrong denomination was pulled and causes them to be inserted into the reject box. In the case of Rwanda, most ATMs are loaded with two denominations of notes, viz the "5000" and "1000". I think this is to reduce the likelihood of dispensing wrong currency notes. In the majority of cases, the ATMs use Debit cards as opposed to Credit cards. Debit cards are issued to account holders that have a debit or positive balance on their accounts with their respective banks. Credit cards are issued by financial institutions, granting credit facilities to their holders. In actual sense, the credit card holders are busy spending money that is not theirs; they are actually borrowing from the credit card issuing institutions. I suppose it is for the above reason that most of the ATMs are designed for the debit cards in a bid to reduce the likelihood of people overdrawing their credit balances. There is confusion between the Bankers' definition of Credit and that of the Accountants. To Bankers, when you have a credit balance, your account is healthy because you are the bank's creditor and vice versa; yet to the Accountant, the reverse is true. When a Bank issues you with a Credit card, they become your creditor as compared to the debit card that is pegged to you account balance.

Task Name: Activity Diagram for ATM

Customer	ATM	Bank

- Inser Card
- Enter PIN → Authorize
- Valid PIN → Enter Amount
- Invalid PIN
- Check Account Balance
- balance>=amount / balance<amount
- Debit Account
- Take Money From Slot
- Show Balance
- Take Card ← Eject Card

Reference

[https://www.newtimes.co.rw/section/read/79659]